

Section 9-7: Factor Using Greatest Common Factor (GCF)

By the end of this lesson, you should be able to:

- How do you factor polynomials using the Greatest Common Factor?

Where you might see this in the real world:

- Finance, geography, physics, modeling

Define the following term:

1. Factoring

Earlier in this chapter, we were multiplying monomials and polynomials to get new monomials and polynomials. The two things we are multiplying together are known as factors. If we can multiply these two factors together to get a new polynomial, then we can take that new polynomial and break it back down into those two factors. This is known as factoring.

When we have a polynomial with more than one term, we can check to see if there is anything that each term has in common with the others. When we do this, we are factoring out the greatest common factor (GCF). Once again, we are going to start by looking at the coefficients first, followed by the variables in alphabetical order. We will write the greatest common factor first, then write out what is left. This is the “backwards distribution” we were doing in section 9-6.

Example 1: Factor.

a. $5ab - 5bc$

b. $16h^2 + 10h$

c. $4ab^3 + 8a^2b^2$

d. $3x^2y - 6xy^2 + 12x^2y^2$

Example 2: Since a trapezoid may be divided into two triangles, the formula for the area of a trapezoid is obtained by adding the areas of two triangles. Find this formula. Then factor the GCF.

Problem Set:

"Actions have consequences...first rule of life. And the second rule is this - you are the only one responsible for your own actions." - Holly Lisle